(c) to (e) As the matter is under investigation by the local police, no reference to the CBI for enquiry is considered necessary.

Research by NBRI on use of plants as indicators of pollution

2286 SHRI B. K. HARIPRASAD: Will the Minister of ENVIRONMENT AND FORESTS be pleased to state:

(a) whether the National Botanical Research Institute have been engaged in R and D to use plants as indicators of traffic density and air pollution; if so, the details thereof; indicating whether similar work is being done in other laboratories in India and abroad; and

(b) whether these methods are superior to the direct methods of analysis now in use in India and abroad?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY (PROF. M. G. K. MENON): (a) Studies conducted by the National Botanical Research Institute (NBRI) at ten selected sites in Lucknow city have revealed direct correlation between sulpnate and lead content in the foilage of plants along the road and the traffic density/pollution density. Studies conducted so far have shown that road side plants can be used for monitoring automobile exhaust pollution. The Central Pollution Control Board has carried out studies on the impact of auto exhaust lead pollution on vegetation in Delhi. Similar work has been carried out in foreign countries also.

(b) These methods have the advantage of showing the long term uptake and efforts of pollutants in the case of biological system; plant uptake of pollutants is of an integrating nature. These methods cannot be a substitute for direct analytical methods.

Research on Biopesticide MCAP in India

2287. SHRI B. K. HARIPRASAD: Will the PRIME MINISTER be pleased to state:

(a) whether a safe biopesticide MCAP has been developed in USA and cleared by the EPA for release in USA in 1990, as per April 1990 issue of Health for Millions;

(b) whether any trials have been conducted on this biopesticide in order to establish various claims and new features of the biopesticide, and

(c) whether any similar R and D work is in progress in India; if so, the details thereof and with what results?

THE MINISTER OF STATE IN THE MINISTRY OF SCIENCE AND TECHNOLOGY (PROF. M. G. K. MENON): (a) Yes, Sir.

(b) Trials with this biopesticide have reportedly been conducted for the control of lepidopteran insects such as Potato Beetle (*Leptninoparsa decemilineata*), maize borer (*Phrauseta nubilalis* and Diamond back moth (*Plutella xylostella*).

(c) The Department of Biotechnology has started projects on the development of pilot scale production technology with the main objective of developing semi-commercial and commercial processes for mass production of biocontrol agents and demonstration of their efficacy in farmers' field. Biological control of target pests affecting field crops include: gram caterpiller (*Hellothis armigera*) on pulses, cotton, millets and oilseeds; leaf caterpiller (*Spodoptera/Litura*) on cotton oilseeds, vegetables and pulses; bollworms on cotton; sugarcane shootborer, and internode borer.